Short Form Catalog

6800 Microprocessor:
Hardware
Software
Consulting
Custom Systems
Education
Development System

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WINTEK

Cross Software

6800/6801/6809 Relocatable Assembler — $800
PL/W High Level Language Compiler — $1400
Relocating Cross Linker — $400
6800 Simulator — $800
Floating Point/Scientific Package — $500
Complete package — $3400 (Schools $2000)

All in ANSI standard Fortran for 16 bit
minicomputers and larger machines. In use by
Motorola, TRW, Bendix, Codex, Harris, Hewlett-
Packard, McDonnell-Douglas, Tektronix, Union
Carbide, Vought, Western Union, Hitachi, Philips,
and many others. For details request our free
catalogue or order a set of manuals for $30.

Resident Software

Wizrd — real-time disk operating system supports
both program development and dedicated
applications. Its features include multi-tasking,
overlays, command indirection, and automatic
system memory management.

4K Industrial BASIC - A powerful, compact
interpreter optimized for industrial control
applications. Supports direct memory read/write,
interrupts, assembly language subroutines. — $95

12K BASIC — $95

Editor/Assembler — $95

C high level language compiler — $495

PL/W high level language compiler — $495

Firmware

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By far the best 1K loader/monitor/debugger for
the 6800 in a ROM. That is why HEATH had us
customize it for their ET-3400 trainer. MIKBUG™
upward compatible, but much more convenient to
use. In addition it has single step, break points,
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other features not found in MIKBUG™. —$29

MATH-1
Floating point and long integer ADD, SUB, MUL,
DIV, MOD, NRM. Reentrant, relocatable, in 2708
EROM — $49

BASIC-I
4K industrial basic in 4 2708's on ROM
module — $299

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few to an outside course. We have presented in
house courses at NASA, DCA, Perkin-Elmer,
USAF, USN, USA, Harris Semiconductor, Exxon,
to name a few.

Micro Modules/Microcomputers
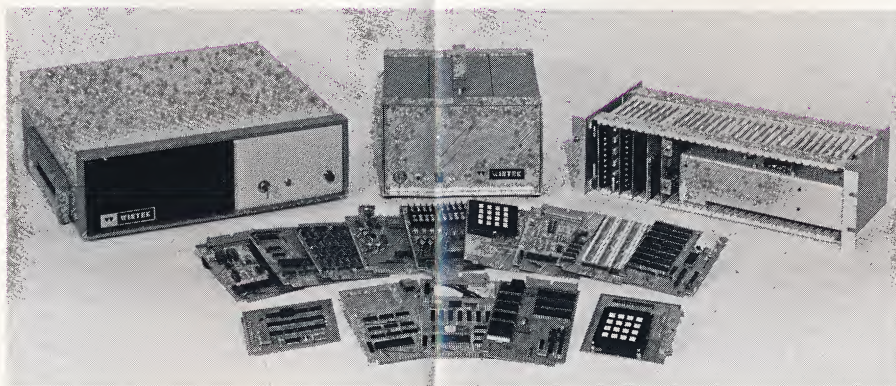
Configure Your Own System
We offer the most complete line of 6800 micro-processor modules and real world interface modules on industry standard 4½" x 6½" PCB's with standard 44 pin connectors. Save time and money. Configure your own system and get it up and running in hours. Prices listed are unit prices. OEM discount schedule 10-24 10%; 25-49 20%; 50-99 30%; 100-499 40%; and 500 or more 50%.

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Wince RAM Module
Can be loaded with 4K, 8K, 12K, or 16K bytes. $199-$449.

Wince ROM Module
16K ROM expansion module for 1 to 16 2708 EROM's. $99-$159.

Wince EROM Programmer Module
Most cost effective, easy to use EROM programmer available. For 2704, 2708, 2716's. $199.

Wince Analog Interface Module
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Wince Driver/Sensor Module
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Wince CMOS RAM/Battery Module
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Wince Console I/O Module
16 keys for data entry, 15 7-segment LED displays, real time clock. $199.

Wince RS-232/Cassette Interface
Allows high speed 2400 baud load and dump to audio cassette as well as 300 baud Kansas City Standard. Also RS-232 port. $139.

Wince Floppy Controller Module
Interface to any full size or minifloppy disk drive. $249.

Wince Counter/Timer Module
Frequency Counter, period measurement, event counter, or free running timer. $199.
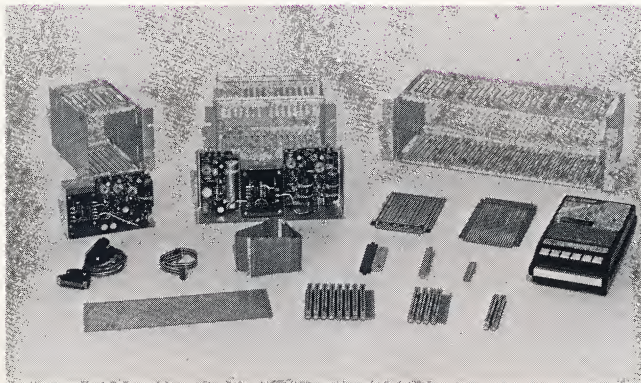
Wince Parallel I/O Module
2, 4, 6, or 8 fully buffered 8-bit ports. $119-$259.

Wince 488 Interface Module
Performs all talker, listener, and controller functions for the GPIB. $199.
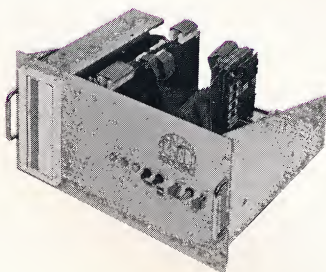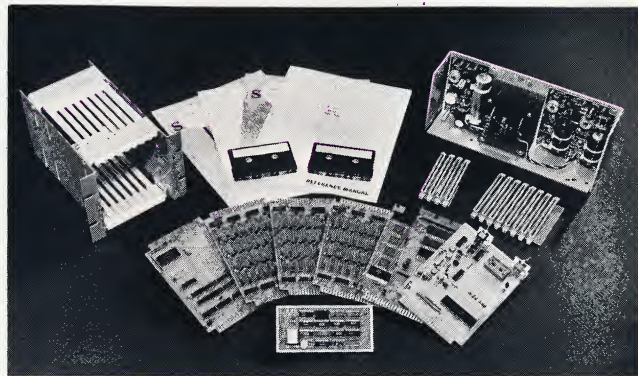
Accessories

Accessories

Complete line of card racks, power supplies, back planes, cable assemblies, connectors, extender cards, cassette decks, disk drives, etc.

Custom Systems

We do custom hardware and/or custom software, or a complete custom turnkey system. Our custom jobs include HEATH H-8 system software, HEATH ET-3400 software, gas chromatograph controllers, data logging systems, automated broadcast equipment controllers (shown), utility central and remote controllers, engine analyzers, to name a few. Expect quick turn around, quality work, and reasonable prices.

Development Packages

Development Package I
All Modules, accessories, and software required to configure a 16K development system. $899.

Development Package II
Everything for a 48K development system (shown). $1999.

Development Systems

Sprint 68
48K RAM, dual 8" drives, RS-232 port, Wizrd operating system, Editor, Assembler, 12K BASIC. All for $3,995.

Software options include a C compiler and a PL/W compiler.

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Microcomputer does it all

6800-based machine with dual floppy disks and 48 kilobytes of RAM supports Basic, C, UCSD Pascal, and PL/W high-level languages

by John G. Posa, Microsystems & Software Editor

The Sprint 68 system from Wintek is a rugged, reliable microcomputer that can function both as a dedicated, real-time turnkey computer and as a software development system. Its impressive list of standard and optional hardware and software tools is so comprehensive that an unfulfilled designer must indeed be a very hard person to please.

The basic $3,995 Sprint comes equipped with the 6800 microprocessor, dual 8-in. floppy-disk drives, 48 kilobytes of random-access memory, an RS-232 serial input/output port, a multitasking disk operating system (DOS) called Wizrd, an editor, an assembler, and a 12-kilobyte version of Basic in read-only memory.

If this basic system cannot handle it, any of Wintek's micromodules can be added to the backplane for extra serial, parallel, or analog I/O, an erasable-programmable-ROM programmer, or an interface for the IEEE-488 bus. Similarly, if other high-level languages are needed, the system supports optional compilers for C, UCSD Pascal, and PL/W, Wintek's version of IBM's PL/1 for the 6800 microprocessor. Finally, additional firmware can be installed, including a monitor and debugger called Fantom-II, a floating-point package called Math-1, and a 4-kilobyte version of industrial Basic.

The Wizrd DOS is unique in that each task can be allocated a share of the microprocessor's resources as these become available or as demanded by conditions outside the computer via interrupts. Its multitasking feature allows the overall system software design to be partitioned into smaller, more managable

modules, each of which can be executed as an individual program.

Wizrd is unlike many microcomputer disk operating systems in that it has many features normally associated with minicomputers. This includes true device-independent (virtual) I/O, sophisticated heap management for efficient memory allocation for I/O buffers, and command indirection. Command indirection, which allows computer commands to be read from files with no operator intervention, is essential for systems used by untrained operators; it can also reduce the time required to develop such systems by an order of magnitude.

Recent advances in computer science have resulted in features that greatly enhance the productivity of a programmer. Included are structured high-level languages, separate compilation of individual subroutines, selective loading from subroutine libraries, and language standardization. The editor, assembler, and programming languages available for Sprint incorporate these modern concepts.

The text editor is a general-purpose line- and character-string oriented program having powerful content-oriented conditional editing commands that include insert, replace, delete, edit, print, tab, purge, save, and restore.

The assembler generates an object code file and a listing file for 6800 microprocessors. It features conditional assembly, all standard pseudo-operation codes, plus title and subtitle, pre- and post-radix, programmer flagged errors, efficient error handling, and automatic memory management through a label table. A

Wizrd utility allows the object code to be loaded into RAM and executed.

While much is said about Basic, Pascal, and PL/1-like languages, not enough time has been allotted for the virtues of C. This is a very modern, structured language and very effective in expressing both system and application algorithms. It is also ideal for microprocessor programming because its low-level constructs allow manipulation of characters, numbers, and addresses on a completely individual basis.

C blends together a fine complement of decision-making, looping, and case-selection control features, which combine for well-structured, efficient programs. Variables may be internal to a program block, external to one, or global to all, and the functions of a C program may be compiled separately.

After the software has been developed using Sprint, the same system can be configured for various data-acquisition, process- and power-control applications by simply installing the proper mix of RAM, ROM, and serial and parallel I/O modules.

For heavy loads, driver sensor and relay micromodules can be used for optically isolated inputs and for driving motors, lamps, and so on. The IEEE 488 module allows Sprint 68 to be used as a powerful general-purpose interface bus controller. Finally, Sprint 68 can also be supplied with Wintek's power-failure detect/power-on reset power supply for applications that require advance knowledge of an imminent power failure.

Wintek Corp., 1801 South St., Lafayette, Ind. 47904. Phone (317) 742-8428